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FAUNISTIC NOTE

First record of *Cybocephalus nipponicus* (Coleoptera, Cybocephalidae) in Romania

Alexandru-Mihai Pintilioaie[1], Jason Mate[2]

1 *Marine Biological Station "Prof. Dr. Ioan Borcea", Agigea, "Alexandru Ioan Cuza" University of Iași, B-dul Carol I, No. 20A, 700506 Iași, Romania*
2 *c/Henares 16; Velilla de San Antonio, 28891, Madrid, Spain*

Corresponding author: *Alexandru-Mihai Pintilioaie* (alexandrupintilioaie@gmail.com)

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Abstract

Cybocephalus nipponicus Endrödy-Younga, 1971 is recorded for the first time in Romania. An up-to-date map of its distribution in Europe is presented, together with pictures of the male collected at 'Dunele Marine de la Agigea' nature reserve.

Keywords

Accidental introduction, biocontrol agent, Cucujoidea, Insecta, species distribution.

The family Cybocephalidae (Coleoptera: Cucujoidea) comprises minute sized beetles (0.5 – 2.5 mm) distributed worldwide. The larvae and adults are predators, feeding mainly on armored scale insects (Hemiptera: Diaspididae), this being the reason why some species are largely used as biological control agents (Smith and Cave 2006). There are currently 201 known extant species belonging to 15 genera, of which the genus *Cybocephalus* Erichson, 1844 alone comprises 178 different species (Smith 2021). To date 23 species of *Cybocephalus* are known in Europe, of which only 3 had previously been recorded in Romania, namely *Cybocephalus fodori fodori* Endrödy-Younga, 1965, *Cybocephalus politus* (Gyllenhal, 1813) and *Cybocephalus pulchellus* Erichson, 1845 (Jelínek and Audisio 2007). A fourth species, *Cybocephalus nipponicus* Endrödy-Younga, 1971, is reported here for the first time from Romania.

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***Cybocephalus nipponicus* Endrödy-Younga 1971: 244–245**

Description: The males of *Cybocephalus nipponicus* are easily recognizable by their bicolored body, with a yellow head and pronotum and black elytra (Fig. 1), and can even be distinguished in the field from its congeners that occur in Romania. However, for the females, whose coloration is uniformly black, careful examination under a binocular microscope is required for a correct identification.

Figure 1. Habitus and male genitalia of *Cybocephalus nipponicus* collected in Romania.

Hosts: To date, there are 18 Diaspididae and 1 Tetranychidae (Insecta: Hemiptera) species that are predated by *Cybocephalus nipponicus*, this species is being extensively used as a biocontrol agent against armored scale insects (Smith 2022).

Distribution: The species is native to Asia and it is known to occur throughout most of the area (China, Korea, Japan, India, Sri Lanka, Taiwan, Thailand, Singapore and Micronesia (Palau, Mariana Islands) (Jelínek and Audisio 2007, Smith and Bailey 2007, Merkl et al. 2017). It has been introduced as a biocontrol agent to the USA, the West Indies and South Africa (Smith and Cave 2006). It has also spread to other areas such as Hawaii (Ewing 2004) and Europe, probably due to accidental introductions.

In Europe it was first recorded in October 2001 in Sanremo (Liguria, Italy), where a colony was observed on *Opuntia ficus-indica* (L.), feeding on *Diaspis echinocacti* (Bouché, 1833) (Lupi 2002). The species was later discovered in Budapest (Hungary), where it was found repeatedly during 2016 and 2017 (Merkl et al. 2017). The authors also noted that although not officially recorded in France, "*…the species was observed in France, according to a post on the forum Le Monde des insectes <https://www.insecte.org/forum/viewtopic.php?t=149434> that shows a photo of the unmistakable male of C. nipponicus from 21 November 2015.*" A thorough search of the website yielded additional localities in France, the earliest from Vence on the 3rd January 2012 (Le Monde des insects, 2023).

From Spain it was independently recorded in 2017 from a city park in Barcelona (Viñolas et al. 2017) and on mangoes in Málaga (Vela et al. 2015, del Pino et al. 2020) and was found to be common and widespread in Madrid in 2015–2016 feeding on *Unaspis euonymi* (Comstock, 1881) on *Pittosporum tobira* ´variegatum´ (Thunb.) W. T. Aiton. All the known records to date have been used to map the currently known distribution of the species in Europe (Fig. 2).

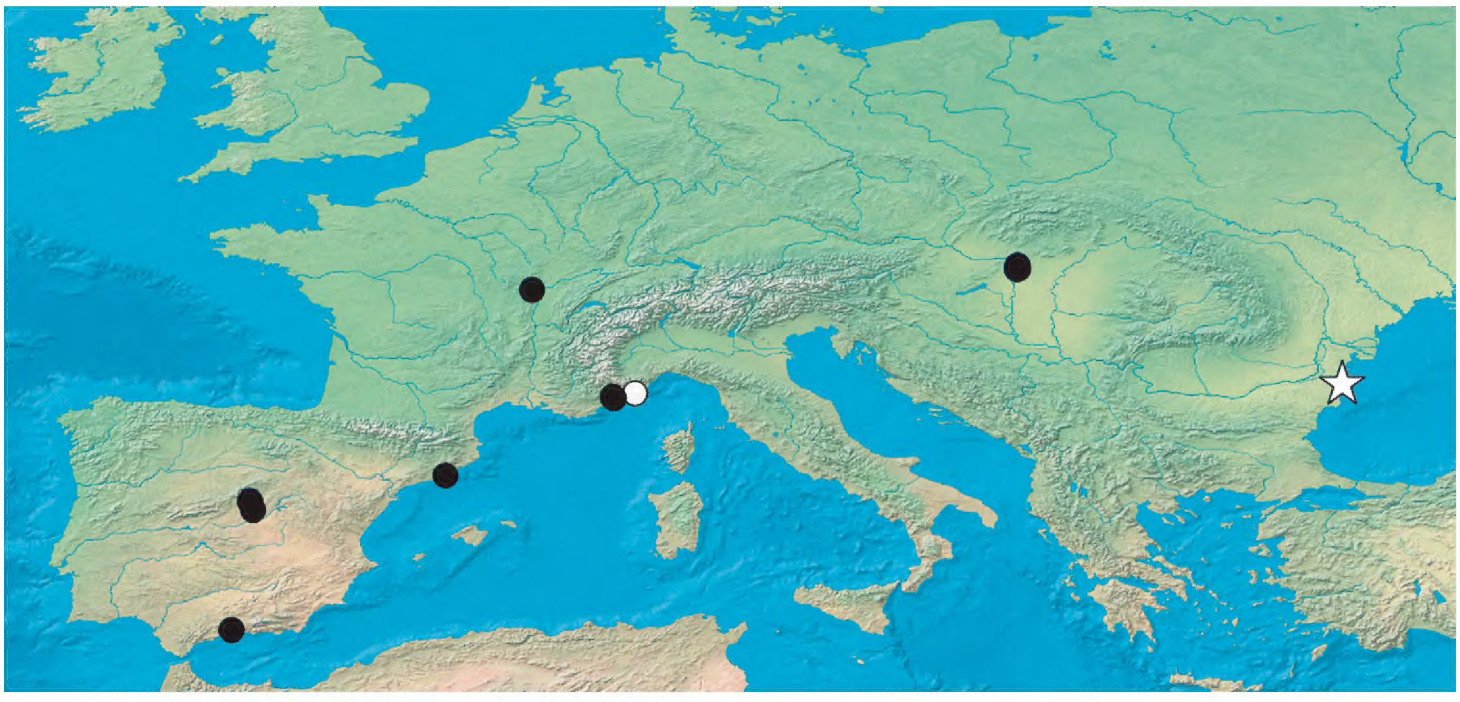

Figure 2. Distribution map of *Cybocephalus nipponicus* in Europe (star – new record; white dot – first record in Europe; black dot – other known or published records).

Most probably, the species arrived in Europe accidentally, on ornamental plants infested with armored scale insects brought from Asia, and it may have spread equally rapidly on common ornamental species of *Citrus* L. and *Pittosporum* Banks ex Sol., which are known to host the Diaspididae on which *Cybocephalus nipponicus* feeds upon.

Material examined: Romania (Northern Dobruja): Constanţa county: Agigea commune: 'Dunele Marine de la Agigea' nature reserve: 44.0854°N, 28.6420°E; 8 August 2022, 1 ♂, YPT (yellow pan traps); leg., coll. and det. A.-M Pintilioaie, confirmed J. Mate. The specimen is housed in the personal collection of the first author.

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